

What is claimed is:

1. A lithium ion secondary cell comprising a positive electrode, a negative electrode and a non-aqueous electrolytic solution wherein said negative electrode comprises a negative
5 electrode active material containing a carbonaceous material having a spacing d_{002} of 0.3360 nm or less where the spacing d_{002} is a plane distance of (002) planes measured by a X-ray diffraction method, a crystal size L_c in the c-axis direction of at least 70 nm and a R value of from 0.01 to 0.3 where a R value is a ratio
10 of I_{1350} to I_{1580} in which I_{1350} and I_{1580} are Raman intensities around 1350 cm^{-1} and 1580 cm^{-1} in a Raman spectrum measured by exciting a carbonaceous material with an argon laser having a wavelength of 514.5 nm, and wherein said non-aqueous electrolytic solution contains 0.5 to 5% by weight of vinylene carbonate or its
15 derivative.

2. The lithium ion secondary cell according to claim 1, wherein said carbonaceous material is natural graphite.

3. The lithium ion secondary cell according to claim 2, wherein said natural graphite has a R value of 0.1 to 0.3.

20 4. The lithium ion secondary cell according to claim 1, wherein said non-aqueous electrolytic solution contains 1.2 to 4% by weight of vinylene carbonate or its derivative.

5. The lithium ion secondary cell according to claim 1, wherein said negative electrode comprises a mixture of a cellulose
25 ether compound and a butadiene copolymer rubber as a binder.